

5278

Form 504	
U. S. COAST AND GEODETIC SURVEY	
DEPARTMENT OF COMMERCE	
DESCRIPTIVE REPORT	
Type of Survey	<i>Hydrographic</i>
Field No.	Office No. <i>5278</i>
LOCALITY	
State	<i>California</i>
General locality	<i>Southern</i>
Locality	<i>Port Monterey Bay</i>
<i>1932-33</i>	
CHIEF OF PARTY	
<i>Fred S. Leach</i>	
LIBRARY & ARCHIVES	
DATE	

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U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

JUN 23 1933

Acc. No. _____

Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: California _____

11-5613

DESCRIPTIVE REPORT.

Hydro. Sheet No. 5278

LOCALITY:

CALIFORNIA COAST

SOUTHERN PORTION

MONTEREY BAY

1932-33

CHIEF OF PARTY:

Fred. L. Peacock

5278

DESCRIPTIVE REPORT
to accompany

HYDROGRAPHIC SHEET FIELD NO. 46

Coast of California

U.S.C. & G.S.S. GUIDE
1932- 1933

INSTRUCTIONS:

Instructions for the hydrography on this sheet are dated April 4, 1932.

CHARACTER OF WORK:

The hydrography on this sheet is all fixed position hydrography. The soundings taken by the Ship GUIDE were obtained by the fathometer, except for 48 vertical cast soundings for fathometer comparison. Soundings obtained by the Launch ROGUE are hand lead and machine wire soundings.

The depth range for the fathometer soundings is from 15 to 378 fathoms; that of the hand lead and wire soundings is from 9 to 30 fathoms. The spacing of lines to a depth of 20 fathoms is approximately 150 meters; from 20 to 30 fathoms is approximately 300 meters; and outside the 30 fathom curve is 700 meters.

Cross lines are spaced roughly four miles apart.

The position interval for the ship work is in general 3 minutes; for the launch work, 3 minutes for the hand lead soundings and 5 minutes for the machine soundings; each having supplemental positions at all radical changes of course or speed.

The scale of the sheet is 1 to 40,000.

LIMITS:

The work on this sheet extends approximately from Longitude 121-49 to Longitude 121-58.5 and from Latitude 36-36 N. to 36-48 N.

The work done by the Launch ROGUE consists of a belt of sounding lines approximately 950 meters in width, extending from Longitude 121-56 and Latitude 36-38.5 to Longitude 121-50 and Latitude 36-40.2. This sheet joins ship sheet 45 on the north and ship sheet 82 on the west. The inshore hydrography has not been accomplished at this date.

There are about 75 statute square miles of hydrography on this sheet.

CONTROL:

The control for the hydrography on this sheet consisted mainly of hydrographic signals over triangulation stations of the 1932 scheme, executed by Lieutenant Chas. Pierce and plotted on North American 1927 adjusted datum. ✓

Triangulation Station "Tan" was located by a party from the Ship GUIDE. ✓

DATES OF SURVEY:

Work on this sheet began on Nov. 27, 1932 and was concluded on Feb. 4, 1933. ✓

TIDAL REDUCERS:

Tidal reducers for the soundings on this sheet were obtained from the tide station at Santa Cruz. This gage is a portable automatic No. 142 and was used over a period extending from Nov. 27, 1932 to Feb. 4, 1933 for this sheet. It was considered unnecessary to apply any corrections for time or range to the tides at this station for the area of this sheet. ✓

For further information on the subject of tidal reductions the reader is referred to the season's tidal report which covers all tidal work of the party on the Ship GUIDE from April 28, 1932 to Feb. 28, 1933. ✓

APPARATUS CORRECTIONS:

The apparatus corrections for the soundings on this sheet, consisting of the constant fathometer correction and the velocity correction for the temperatures, salinities and densities of the water sounded, was obtained from an analysis of the temperatures, salinities, dial speed tests and comparative vertical casts throughout the season. The dial speed was a little fast but was approximately constant throughout the season. Temperatures and salinities underwent a minor seasonal variation. The index correction was approximately zero throughout the entire season, with the exception of a few periods of short duration when the fathometer was not operating satisfactorily; but was subject to a slight variation at times when the vessel was unusually deep or light in the water.

It is to be noted that one of these periods mentioned above when the fathometer failed to function properly occurred Feb. 4, 1933 while sounding on this sheet. It will also be noted that there are only 39 positions of this day on this sheet. This line was a continuation of "J" day on sheet 48. A large number of supplemental vertical casts were taken on this day's work to determine a proper index correction. These vertical casts are all shown on "J" day, sheet 48. While the vertical casts indicated comparatively large index corrections during short intervals of sounding, the resultant corrected soundings plotted very well. No discrepancies of over two fathoms are to be found on this sheet.

For further information on the subject the reader is referred to the season's report on temperatures and salinities determinations, which also covers in complete detail dial speed tests, sounding sheave tests and the results of comparative vertical casts.

The soundings accomplished by the Launch ROGUE were machine and hand lead soundings. It will be noted that a very close check was made of the lead line, which was often tested before and after the day's work. The necessary corrections were then applied to the soundings. The sheave was tested at the end of the work on this sheet by the launch party and was found to check within 0.05 of a fathom in 20 fathoms. No corrections were applied to wire soundings for error in the sheave.

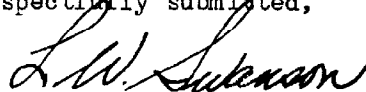
BOTTOM CHARACTERISTICS:

Thirteen bottom characteristics were taken by the ship over the area it surveyed. In the shoaler depths the bottom is grey sand, clay and mud; in the deeper depths the bottom is grey mud. Bottoms taken by the Launch ROGUE were found to be rocky and hard sand for the most part.

DISCREPANCIES:

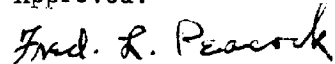
In a few places discrepancies in crossings and between adjacent lines, of a maximum of two fathoms, are noted. Such instances undoubtedly result from the cumulative effect of personal equation, inexact interpretation of the effect of swell, the application of tidal and apparatus corrections in half-fathom units separately, and the failure of the fathometer to function properly during periods of short duration.

Respectfully submitted,



L. W. Swanson,
Jr. H. & G. E., C. & G. Survey.

Respectfully forwarded,
Approved:



Fred. L. Peacock,
Chief of Party, C. & G. Survey,
Commanding Ship GUIDE

LIST OF SIGNALS
to accompany

HYDROGRAPHIC SHEET FIELD NO. 46

TRIANGULATION

HYDROGRAPHIC NAME

LOCATION

TAN	Tan, 1932
MOSS	Moss Beach, Black Smoke Stack, 1932
OIL	Moss Beach, S. O. Co. Tank, 1932
MO	Moss, 1932
CAST	Castroville, 1910- 1932
LAP	Lapis, 1932
JAX	Jacks, 1910-1932
GIG	Gigling, 1932
REY	Monterey Bay 3, 1910-1932
GAS	Monterey P. G. & E. Co. Stack, 1932
MON	Monterey, Presidio Monument, 1932
ACC	Monterey, A. C. C. Co. Stack, 1932
PINOS	Pt. Piños Lighthouse, 1932
SIREN	Siren, 1932
JOE	Pt. Joe, 1932
CLUB	Club, 1932
CY	Cypress Rock, 1932

TOPOGRAPHIC

LONE

STATISTICS
to accompany

HYDROGRAPHIC SHEET FIELD NO. 46

SHIP STATISTICS

Date 1932-3	Day	Stat. Miles Snd'g Line	No. of Pos'ns	No. of (echo) Snd'gs R.L. R.L. x 6	Vertical Casts, Wire	No. of Bot. Smpls.
11-27	A	41.7	84	254 11	10	4
11-28	B	25.7	66	295 1	8	1
11-29	C	30.4	75	199 12	16	2
11-30	D	69.6	149	574 11	8	2
12-20	E	50.2	96	237 34	5	2
1-13-33	F	11.0	22	61		
1-14	G	60.8	134	372	2	2
2-4	H	20.8	39	80 43		
TOTALS		310.2	665	2072 112	49	13

LAUNCH STATISTICS

Date 1932	Day	Stat. Miles Snd'g Line	No. of Pos'ns	No. of Soundings Hd. Lead Wire	Total Snd'gs.
11-28	a	5.3	16	47	47
11-29	b	11.2	56	34 123	147
11-30	c	12.5	67	125 53	178
12-20	d	13.0	54	96 58	154
TOTALS		42.0	193	255 281	526

TOTAL STATISTICS

	Statute Miles Sounding Lines	Number of Positions	Number of Soundings
SHIP	310.2	665	3233
LAUNCH	42.0	193	526
TOTALS	352.2	858	3759

This sheet covers an area of 75 square statute miles.

STATEMENT
to accompany

HYDROGRAPHIC SHEET FIELD NO. 46

Coast of California

U.S.C. & G.S.S. GUIDE
1932-1933

The smooth plotting of this sheet and the pencillings of soundings thereon was done by Mr. J. L. des Ruisseaux, civil engineering hand, under the direct supervision of Ensign Sheridan to April 15, 1933 and of Lieutenant (j.g.) L. W. Swanson thereafter.

Lieutenant Swanson has drawn the depth curves and verified at least ten per cent of the positions and soundings. The completed smooth sheet has been inspected and is approved. However, in as much as the plotting of this sheet was done by a temporary employee, it is recommended that office verification be correspondingly rigid.

Fred. L. Peacock

Fred. L. Peacock,
Chief of Party, C. & G. Survey,
Commanding Ship GUIDE

Oakland, California.
June 15, 1933

RAC

July 3, 1933

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 5278

Locality Southern Portion of Monterey Bay, California

Chief of Party: F. L. Peacock in 1932 and 1933
Plane of reference is mean lower low water, reading
3.0 ft. on tide staff at Santa Cruz.
14.5 ft. below B. M. 2

Height of mean higher high water above plane of reference is 5.3 feet.

Condition of records satisfactory except as noted below:

Hammer

Acting Chief, Division of Tides and Currents

TABLE III
PRESSURE TUBE SOUNDINGS
(Atlantic and Gulf Coasts)

DEPTHS USED	SOUNDINGS ENTERED	CORRECTIONS		SOUNDINGS REDUCED	SOUNDINGS PLOTTED	SOUNDINGS CHARTED
		Sounding apparatus	Tidal			
15 to 100 fathoms when prescribed by specific instructions. (Par. 31) Exception: Not to be used over important bars or where exact depths are required. (Par. 34)	Half fathoms to 40 fathoms. (Par. 32) Whole fathoms for greater depths. (Par. 32)	Half fathoms. (Page 110) Omit if less than $1\frac{1}{2}$ of depth. (Par. 133)	Half fathoms. (Page 110) Omit if less than $1\frac{1}{2}$ of depth. (Par. 133, 134)	Whole feet. (Par. 136)	Whole feet. Exception: In oceanographic work or offshore soundings that fall on charts plotted in fathoms, when latter unit is to be used. (Par. 133)	Whole feet or whole fathoms, depending on the chart.
(Pacific Coast)						
Same as above.	Same as above.	Same as above.	Same as above.	Half fathoms to 40 fathoms. (Par. 136, 32) Whole fathoms for greater depths. (Par. 136, 32)	Whole fathoms. Exception: Where portion of sheet falls on chart showing soundings in feet, when latter unit is to be used. (Par. 152)	Whole fathoms or whole feet, depending on the chart.

Paragraph numbers and pages refer to the Hydrographic Manual (edition of 1928).

Section of Field Records.

Report on H 5278

Chief of Party F.L. Peacock

Extracted by J.L. des Ruisseaux

Verified & Inked by J.W. Walker

Surveyed in 1932 and 1933

Surveyed by F.L.P., R.F.A. Stulls,

A.M. Stewart.

Soundings plotted by J.L. des R.

The sounding records are neat, legible, and complete. A tracing was made of the boat sheet, except blue a, b, c, and d days, and the protracting on the smooth sheet was compared with it. Few differences were found and they were mostly erroneous plotting of the boat sheet. Where the boat sheet and smooth sheets agreed few positions were protracted.

The soundings were nearly all penciled in correctly and in the correct position. The crossings were good and agreed within a fathom or two.

No geographic names and no shoreline appeared on the sheet when received. Names were added from the chart and the shoreline was omitted as it is an offshore sheet and no contemporary topo sheets have as yet been received in the office. One topo signal (Lone) appears on the sheet and was not checked by the writer because the topo sheet had not been received.

The sheet joins H 5247 on the north. The overlap is sufficient and the agreement is fair.

The junction with H 5279 on north and west is sufficient and the agreement is good.

No dangerous shoals appear on the sheet and no further development is deemed necessary.

a buoy (Lat. $36^{\circ}-37^{\frac{1}{2}}$ Long. $121^{\circ}-53^{\frac{3}{4}}$) is shown on chart 5403 but not on the smooth or boat sheets. No other discrepancies with the chart were noted as only a cursory examination was made.

Respectfully submitted
J. F. Walker
8-29-33

SECTION OF FIELD RECORDS

Review of Hydrographic Survey No. 5278
Monterey Bay - Southern Portion, California.
Surveyed in 1932, 1933.
Instructions dated April 4, 1932 (Guide).

Chief of Party - F. L. Peacock.
Surveyed by - F. L. Peacock, R. F. A. Studds and A. N. Stewart.
Protracted and soundings plotted by - J. L. des Ruisseaux (C.E. Hand)
Verified and inked by - J. F. Walker.

1. The records conform to the requirements of the Hydrographic Manual.
2. The plan and extent of development satisfy the Specific Instructions.
3. The usual depth curves can be completely drawn.
4. The sounding line crossings are adequate, the agreement being generally within 1 fathom. There are several instances where crossings do not agree within 2 fathoms which may be due to the cumulative effect of various factors as mentioned in the descriptive report.
5. A satisfactory junction has been effected with the contemporary off-shore surveys H. 5247 and H. 5279. The inshore surveys have at this writing not yet been received.
6. The usual field drafting was accomplished and was satisfactory.
7. Comparison with old surveys.

A comparison has been made between this survey and the surveys of 1856 and 1883. The agreements are generally good except for an area in the vicinity of lat. $36^{\circ} 42'$ long. $121^{\circ} 56'$ where the new survey is from 2 to 6 fathoms deeper than the survey of 1856 (H. 558) in depths of about 50 fathoms. Inasmuch as the fathometer soundings on the latest survey indicate consistent results in this area, the fathometer depths being backed up by two vertical casts, it was not considered necessary to pursue the matter any further.

Since no critical depths are involved within the area covered by this survey and since it is insufficient detail for charting on the usual scale, it is recommended that within its limits H. 5278 supersede all previous surveys.

8. No additional work is necessary in the area covered by this survey.
9. Attention is called to the fact that no mention is made in the records for this survey of the whistle buoy off Point Pinos nor of the bell buoy in Monterey Harbor.
10. Reviewed by A. L. Shalowitz, September 16, 1933.

L. O. Colburn
Chief, Field Records Section.

J. F. Walker
Chief, Field Work Section.

Examined and approved:

W. H. Bagnall
Chief, Chart Division.

G. H. H. H.
Chief, H. & T. Division.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5278

The following statistics will be submitted with the
cartographer's report on the sheet:

Number of positions on sheet	858
Number of positions checked	81 *
Number of positions revised	1
Number of soundings recorded	3759
Number of soundings revised	24
Number of signals erroneously plotted or transferred	0

Date: Aug 29, 1933

Cartographer: J. T. Walker

* Boat sheet traced and compared with smooth sheet
except inshore blue days.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. 5278

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

JUN 23 1933

Acc. No.

Field No. 46

REGISTER NO. 5278

State California

General locality Pacific Coast

Locality Southern portion of Monterey Bay.

Scale 1:40,000 Date of survey Nov. 27, 1932 to Feb. 4, 1933

Vessel GUIDE

Chief of Party Fred. L. Peacock

Surveyed by Fred. L. Peacock, R. F. A. Studds and A. N. Stewart

Protracted by J. L. des Ruisseaux

Soundings penciled by J. L. des Ruisseaux

Soundings in fathoms feet

Plane of reference M. L. L. W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated April 4, 1932

Remarks: Positions by visual sextant fix. Ship soundings by

Fathometer, Launch soundings by hand lead and wire.